AMENDMENTS TO THE CLAIMS

1. (Currently amended): A machine for performing machining operations on a work-piece comprising:

a carriage;

a movable head containing a tool for performing the machining operations on the work-piece;

a laser position determination system operable to determine the spatial relationship of the work-piece during the machining operations, determine the spatial relationship of the carriage and the work-piece and provide ~~providing~~ a first signal representative thereof, and to further determine the spatial relationship of the head to the work-piece during actual machining operations on the work-piece and to provide a second signal representative thereof;

a computer processor operable to provide a third signal to the movable head for machining the work-piece based on a predetermined spatial relationship between the carriage and the work-piece and to receive the first and second signals and to adjust the third signal based on the actual spatial relationship between the carriage and the work-piece prior to machining operations.

2. (Previously presented): The machine as set forth in claim 1 wherein the carriage is portable.

3. (Previously presented): The machine as set forth in claim 1 wherein the laser position determination system includes:

a laser transceiver system;

at least one first laser target mounted on the carriage;

at least one second laser target mounted on the work-piece; and

at least one third laser target mounted on the head.

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4. (Original): The machine as set forth in claim 3 wherein the carriage includes means to lock the machine in a position in proximity to the work-piece.

5. (Previously presented): The machine as set forth in claim 3 wherein the laser position determination system includes a laser transceiver assembly adapted to track ~~said~~ the at least one first, second and third laser target.

6. (Canceled)

7. (Previously presented): The machine as set forth in claim 6 wherein the laser position determination system comprises:

a first laser transceiver assembly for tracking the at least one target mounted on the carriage;

a second laser transceiver assembly for tracking the at least one laser target mounted on the work-piece; and

a third laser transceiver assembly for tracking the at least one laser target mounted on the head.

8. (Previously presented): The machine as set forth in claim 1 wherein the laser position determination system comprises:

a first laser transceiver assembly for tracking an at least one target mounted on the carriage; and

a second laser transceiver assembly for tracking an at least one laser target mounted on the work-piece.

9. (Previously presented): A computer controlled machining system comprising:

a carriage with a movable head for performing machining operations on a work-piece, and

a computer program for providing signals to the head to move the head to specific spatial relationships with the work-piece:

a laser position determination system operable to:

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determine a spatial relationship between the carriage and the work-piece, and provide a first signal representative thereof;

continuously determine a spatial relationship of the head to the work-piece during actual machining operations and provide a second signal indicative there of; and

compare the second signal to the first signal and to adjust the first signal so that the head is positioned based on the actual spatial relationship between the carriage and the work-piece prior to machining operations and between the head and the work-piece during machining operations

10. (Original): The machine as set forth in claim 9 wherein the carriage is portable.

11. (Previously presented): The machine as set forth in claim 10 wherein the laser position determination system includes:

a laser transceiver system;

at least one laser target mounted on the machine;

at least one laser target mounted on the work-piece; and

at least one laser target is mounted on the head.

12. (Original): The machine as set forth in claim 11 wherein the carriage includes means to lock the machine in a position in proximity to the work-piece.

13. (Currently amended): The machine as set forth in claim 9, or 10, or 11, or 12, wherein:

the laser position determination system also determines the spatial relationship of the work-piece during machining operations and provides a third signal representative thereof; and

~~the~~ computer executable logic instructions are operable to compare the third signal to the first signal and to adjust the first signal.

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14. (Previously presented): A method of increasing the accuracy of a machine that includes a carriage with a robotic arm, the robotic arm having a head including a tool that performs machining operations on a work-piece, the head movable to a computed spatial relationship to the work-piece directed by a first signal from a computer based on a predetermined spatial relationship between the carriage and work-piece, the method comprising:

determining the actual spatial relationship between the carriage and the work-piece prior to machining operations and providing a second signal representative thereof;

continuously determining a spatial relationship between the head and work-piece during the performance of machining operations and providing a third signal indicative of the actual spatial relationship there between; and

adjusting the first signal based on the difference between the first signal and the second and third signals such that the head remains in the computed spatial relationships to the work-piece.

15. (Previously presented): The method as set forth in claim 14, including determining the spatial relationship between the carriage and the work-piece during machining operations and providing a fourth signal representative thereof; and adjusting the first signal based on the difference between the first and fourth signals such that the head remains in the computed spatial relationships to the work-piece with this adjustment continuously accomplished during machining operations.

16. (Previously presented): The method as set forth in claim 15 wherein determining the spatial relationship between the carriage and the work-piece and providing a fourth signal representative thereof and continuously determining the spatial relationship between the head and the work-piece during the performance of machining operations and providing a third signal indicative of the spatial relationship between the head and the work-piece, and additionally adjusting the first signal based on the difference between the first and fourth signals such that the head remains in the computed spatial relationships to the work-piece with this adjustment continuously accomplished during machining operations is accomplished by means of a laser position determination system.

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17. (Previously presented): A machine for performing machining operations on a work-piece comprising:

a portable carriage;

a robotic arm mounted on the carriage, the robotic arm having a head for machining the work-piece;

a laser position determination system comprising:

at least one first laser target mounted on the work-piece;

at least one second laser target mounted on the carriage;

at least one third laser target mounted on the head; and

a laser transceiver for determining the spatial relationship of the carriage, work-piece, and the head during machining operations, respectively, and to provide output signals representative thereof; and

a computer having a first part of a computer program for machining the work-piece with a tool based on a preset spatial relationship between the carriage and the work-piece, a second part of the computer program adapted to adjust the first part of the computer program in response to the output signals such that the head is properly positioned during the machining operations should the work-piece or the robotic arm introduce positional errors.

18. (Previously presented): A machine comprising:

a portable carriage;

a robotic arm mounted on the carriage, the robotic arm having a head for machining a work-piece;

a laser position determination system comprising:

at least one first laser target mounted on the work-piece;

at least one second laser target mounted on the carriage;

at least one third laser target mounted on the head; and

first, second and third laser transceiver assemblies for directing laser beams at the at least one first, second and third one targets respectively and to provide first, second and third signals representative of spatial

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relationships of the carriage, work-piece, and the head during machining operations, respectively; and

a computer having a first part of a computer program for machining the work-piece with a tool based on a preset spatial relationship between the carriage and the work-piece, a second part of the computer program adapted to adjust the first part of the computer program in response to the first, second and third signals such that the head is properly positioned during the machining operations should the work-piece or the robotic arm introduce positional errors.

19. (Previously presented): The machine as set forth in claim 1, further comprising a robotic arm mounted on the carriage upon which the movable head is mounted.

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